

WHAT IS CLAIMED IS:

1. A fluid dynamic pressure bearing device, comprising:  
a shaft member having a columnar portion formed substantially in a columnar configuration;

a shaft member support portion having a shaft portion insertion hole for accommodating the shaft member; and

a dynamic pressure generating portion formed by filling a clearance defined between the shaft member and the shaft member insertion hole with a liquid, with at least one of a surface of the shaft member and an inner wall surface of the insertion hole being equipped with a dynamic pressure generating groove for collecting the liquid to generate dynamic pressure when the shaft member is rotated around its axis,

wherein an annular shaft member protrusion protruding radially outwards is provided on an outer peripheral surface of the columnar portion situated axially on an outer side of the dynamic pressure generating portion.

2. A fluid dynamic pressure bearing device according to claim 1, wherein the shaft member protrusion has a liquid cutoff surface raised from the outer peripheral surface of the columnar portion toward the inner wall surface.

3. A fluid dynamic pressure bearing device according to claim

2, wherein the cutoff surface is formed as a tapered inner surface whose diameter increases gradually along an axial direction of the shaft member toward the dynamic pressure generating portion.

4. A fluid dynamic pressure bearing device according to claim 2, further comprising an annular axial-support protrusion protruding radially inwards which is provided on the inner wall surface situated on an axially outer side of the dynamic pressure generating portion and more spaced apart from the dynamic pressure generating portion than a position where an extension line of the liquid cutoff surface crosses the inner wall surface.

5. A fluid dynamic pressure bearing device according to claim 2, wherein:

the inner wall surface of the insertion hole situated axially on the outer side of the dynamic pressure generating portion is equipped with a tapered inner wall surface whose diameter gradually decreases along the axial direction of the shaft member toward the dynamic pressure generating portion, and an outer inner wall surface adjacent to a large diameter side of the tapered inner wall surface;

one of the tapered inner wall surface and the outer inner wall surface crosses the extension line of the liquid cutoff surface; and

an angle  $\theta$  made by the tapered inner wall surface and the outer

inner wall surface is in a range of  $95^{\circ} \leq \theta \leq 130^{\circ}$ .

6. A fluid dynamic pressure bearing device according to claim 5, wherein the outer inner wall surface is formed so as to be substantially parallel to the axial direction of the shaft member.

7. A motor, comprising:

the fluid dynamic pressure bearing device according to claim 1; and

driving means for rotating the shaft member with respect to the shaft member support portion.

8. A recording medium driving device, comprising:

the motor according to claim 7; and

a hub supporting a thin-plate-like recording medium which is mounted to the shaft member.